

Declassification of naval data: the steps!

Sara Almeida, Instituto Hidrográfico, Portugal, sara.almeida@hidrografico.pt
Paulo Nunes, Instituto Hidrográfico, Portugal, antunes.nunes@hidrografico.pt

The Instituto Hidrográfico, as navy unit, has centralized over the years numerous data sets related to military missions. Some of them were naval fleet exercises that brought together several ships from different countries, with the common goal of carrying out oceanographic studies - examples of these were the MILOC campaigns realized between 1965 and 1969.

Those datasets collected by military ships were usually, classified and remain archived in secure stores.

Following the guidance of the Intergovernmental Oceanographic Commission (IOC) of UNESCO, and the principles of data sharing as a path for a better ocean knowledge and awareness, the Instituto Hidrográfico requested naval staff to start the declassifying process of historical BT and XBT profiles. More than twenty-five thousand bathy messages (temperature versus depth), since 1957, soon will be made available for marine data users and scientific community.

During the military campaigns, it was not rare to use expendable bathythermographs (XBT). Each time these were launched, and after the conclusion of the station, a bathy message was sent to the national reference bodies. The information was encoded and, in addition to the temperature profile, the position and the meteorological conditions for the station itself were added, usually wind direction and speed (figure 1). After receiving the message, it was decoded and archived per year. When analysing these 50 year's data, the geographical coverage is the Portuguese EEZ: 45°N to 30°N and 40°W till 7°W, with higher concentration of coastal stations up to 10°W and some transects between the continental zone and the Islands: Azores and Madeira.

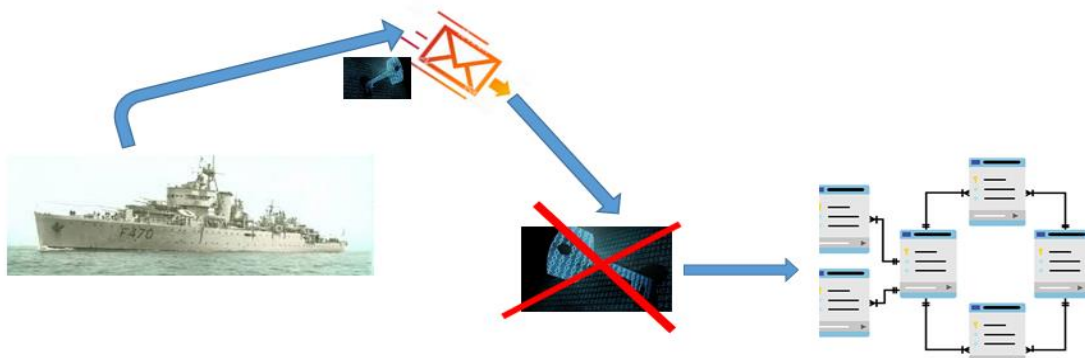


Figure 1: The BATHY messages flux

After the completion of a catalogue with all the metadata regarding the campaigns that produced bathy messages, the next step is the processing and quality control of those files. This is a huge phase!

Our main goal, after authorization to declassify, is the fully availability of this historical datasets.

Data Management

Although BATHY messages were constructed by selecting significant data points in a temperature-depth profile, corresponding therefore to what we may call low-resolution data, these datasets can contribute to the knowledge of the ocean.

To ensure significance of the results one must insure the quality of the data stage, so it is important to submit it to the procedures and protocols that have proved reliable.

Looking at the existing documentation, there are several relevant publications on this topic. Therefore, we will produce a working method leading to the creation of formatted profiles compatible with the usual tools, for instance, the ones from SeaDataNet and applied on EMODnet.

A special case

More than the campaigns with a wide geographical distribution, there are some interesting observations in this set. This is the case of several years of observations at the same location. During seven years, between 1962 and 1968, a fixed station was held at Lisbon with regular launches per day and along the years (figure 2). This is a very special case that will be challenging to deal with, but we hope will bring forward new insights!

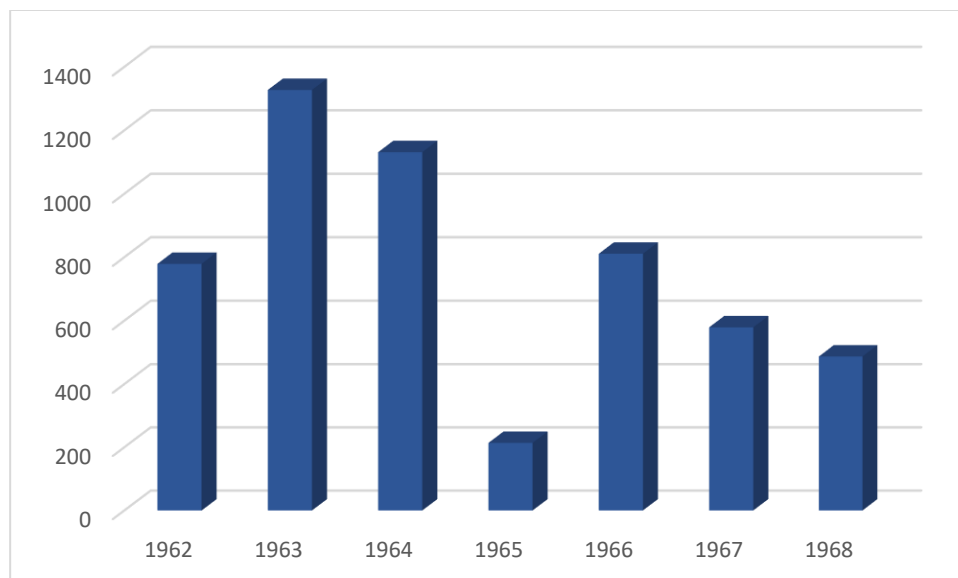


Figure 2: Observations at Lisbon for 7 years

References:

- <https://www.oceanbestpractices.net/>, 24march2020
- Bailey, R.; Gronell, A.; Phillips, H.; Tanner, E. and Meyers, G. - Quality Control Cookbook for XBT Data. CSIRO Marine Laboratories, Report 221, Version 1.1
- ICES Data and Information Group - Data_Guidelines_XBT_v7_revised_2006.pdf
- IOC Circular Letter nº 1439 – Declassification of Oceanographic Data
- JCOMM_Technical Report-1-Status-Reports, July 1999
- Jerico-Next - Report on data management best practice and Generic Data and Metadata models. Version 2.1